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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/989,486	11/20/2001	Reeny T. Sebastian	DP-304592/DE3-0214	9883

7590 12/16/2003

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EXAMINER

BROADHEAD, BRIAN J

ART UNIT	PAPER NUMBER
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3661

DATE MAILED: 12/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/989,486

Applicant(s)

SEBASTIAN ET AL

Examiner

Brian J. Broadhead

Art Unit

3661

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 through 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Hoshi et al., US 2001/0004720 A1.

3. As per claims 1, 15, 16, 17, 18, 19, and 20, Hoshi et al. disclose receiving a plurality of signals indicative of the rear steering angle in paragraph 20; checking at least one of said plurality of signals to determine if it falls within a valid range in paragraph 20; correlating at least a first signal of the plurality of signals with at least a second signal of said plurality of signals to determine if either said first signal or said second signal is invalid in paragraph 20; and signaling a rejection of any of said plurality of signals is found to be invalid in paragraph 20.

4. As per claim 2, Hoshi et al. disclose comparing said first signal with an expected value at about an inflection point of said second signal in paragraph 51 and figure 6.

5. As per claim 3, Hoshi et al. disclose adding a second rear-wheel angle offset corresponding to said second signal in response to said comparing in paragraph 10.

6. As per claim 4, Hoshi et al. disclose subtracting a center value from said signal and multiplying a result of said subtracting by a scale factor in paragraph 13.
7. As per claim 5, Hoshi et al. disclose computing said expected value with a reference to a look-up table on paragraph 56.
8. As per claims 6 and 11, Hoshi et al. disclose computing said expected value by evaluating a continuous function in Figure 6A. The expected values are found from previous signals that are stored.
9. As per claim 7, Hoshi et al. disclose calculating a steering angle corresponding to one of said first signal and second signal so as to create a calculated angle in paragraph 22; and computing an expected value of the other of said first signal and said second signal in accordance with said calculated angle in paragraph 22.
10. As per claim 8, Hoshi et al. disclose comparing said expected value of said other of said first signal and said second signal in paragraph 52.
11. As per claim 9, Hoshi et al. disclose determining than any of said plurality of signals is invalid if said expected value and said actual value are not substantially equivalent in paragraph 52.
12. As per claim 10, Hoshi et al. disclose wherein at least one of said calculating and said computing further comprises using a look-up table in paragraph 56.
13. As per claims 12 and 13, Hoshi et al. disclose said plurality of signals comprises a plurality of signal components of a single carrier signal in paragraph 10; providing a single sensor having two signal outputs in paragraph 10.

14. As per claim 14, Hoshi et al. disclose comparing at least one of said plurality of signals with an upper limit and a lower limit in paragraph 56.

Response to Arguments

15. Applicant's arguments filed 10-9-03 have been fully considered but they are not persuasive. The first argument dealing with claim 1 is not convincing because Hoshi et al. discloses not providing the new first and second signals to the controller when they are not proper. This is indicating signal rejection. The second argument with respect to claim 2 is not convincing because the claims recites the limitations "at about" an inflection point. The examiner interprets the range shown in figure 6 to be "at about" the inflection point. The third argument deals with calculating a steering angle corresponding to one of the first signal and the second signal and then calculating the expected value with the other of the first and second value. If the reference is interpreted so that the first signal in the claim is either the first or second signal in the reference and the second signal in the claim is the third signal in the reference then the reference reads on the invention. The fourth argument deals with a "single carrier signal", this is interpreted by the examiner to mean that the two signals are at the same frequency. In the reference in paragraph 10, it is disclosed that the first and second signal have the same amplitude and period and are out of phase by $\frac{1}{4}$ wavelength.

Conclusion

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Broadhead whose telephone number is 703-308-9033. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William A. Cuchlinski can be reached on 703-308-3873. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.


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BJB

December 15, 2003



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